PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re U.S. Patent Application of:	)	**Group Art Unit: 2618**
	)	
Charles T. FORCE *et al.*	)	**Examiner: R. Chan**
	)	
Serial Number: 10/699,639	)	***Attorney Docket*: FORC3001/BEU**
	)	
Filed: November 4, 2003	)	**Confirmation No.: 3941**

For: Apparatus and Method for Enabling Use of Low Power Satellites, Such as C-band, to Broadcast to Mobile and Non-Directional Receivers, and Signal Design Therefor

PRE-APPEAL BRIEF REQUEST FOR REVIEW

Honorable Commissioner For Patents
P.O. Box 1450
Alexandria, VA. 22313-1450

Sir:

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.

This request is being filed with a notice of appeal.

The review is requested for the reasons stated on the attached sheets (no more than 5 pages are provided).

I am the attorney or agent of record.

Respectfully submitted,
BACON & THOMAS, PLLC

Date: November 6, 2008

By: BENJAMIN E. URCIA
Registration No. 33,805

BACON & THOMAS, PLLC
625 Slaters Lane, 4th Floor
Alexandria, Virginia 22314
Telephone: (703) 683-0500

REASONS FOR REQUESTING REVIEW OF THE FINAL REJECTION

(Attachment to Pre-Appeal Brief Request for Review)

Review of the final rejections of claims 26-37 and 39-51 is requested for the following reasons:

1. Rejection of Claims 26 (mistyped in the Office Action as claim 46), 33, 36, 45, and 46 Under 35 USC §102(b) in view of U.S. Patent No. 5,734,962 (Hladlik)

This rejection should be reversed because the Hladlik patent fails to disclose or suggest the claimed combination of:

- an antenna providing nearly hemispherical coverage (Hladlik discloses a dish antenna, which provides less than 45° coverage that is not even close to hemispherical, and which is specifically excluded by the original specification–see, *e.g.*, page 1, lines 19-20: "***without the need for dish antennas***" and page 3, lines 7-12);
- a low noise amplifier and a sync detection/demodulation unit for recovering the timing signal (Hladlik discloses the low noise amplifier, but not a **sync detect and demodulation unit *apart from the demodulator in each of the channel processors***); *and*
- a plurality of receiver channel processors, each including a spread spectrum decoder, demodulator, and error correction decoder (in the claimed invention, the timing signal is recovered by a **sync detection and demodulation unit that is separate from the individual channel processors**, which include a spread spectrum decoder, demodulator, and error correction decoder for recovering baseband signals).

Basically, the claimed invention ***adds*** a separate sync recovery unit, the claimed "sync detection and demodulation unit" to the usual channel processors that recovery the baseband signal. This **additional demodulator** can be used to capture an **additional timing signal** that is added by the uplink processor. The additional timing signal can survive changes in the baseband signal that

might otherwise prevent synchronization. This enables the use of a relatively small **hemispherical antenna** as discussed in the above-cited passages in the original specification.

The Examiner's replies to these arguments for patentability and the Applicants responses are as follows. None of the Examiner's replies are valid:

On page 2, paragraphs 3 and 4 of the final Office Action, the Examiner responded to the argument concerning the hemispherical coverage by stating that:

> *In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., without the need of dishes) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims.*

This argument makes no sense. The Applicant is not asking that limitations from the specification be read into the claims. The Applicant is simply pointing out that a limitation in the claims ("small antenna providing nearly hemispherical coverage") is not taught by the reference. The dish antenna as disclosed by Hladlik cannot provide nearly hemispherical coverage, and therefore does not correspond to the claimed antenna. Since the reference does not disclose this claimed feature, it cannot anticipate the claimed invention. Furthermore, this feature is specifically described in the specification as an advantage of the invention, and therefore not a matter of "obvious design choice." The advantage is that the invention enables use of a hemispherical antenna to capture relatively weak satellite signals that previously required a dish antenna as taught by Hladlik, thereby enabling broadcasters to use relatively weak signals such as C-band signals to broadcast to receivers where use of a dish antenna (which must be aimed) would be impractical, such as in a moving vehicle.

On page 2, paragraphs 5 and 6 of the Official Action, the Examiner responded to the argument that **Hladik fails to disclose a sync detect and demodulation unit apart from the demodulator in each of the channel processors** (Hladlik's multiple channel embodiment,

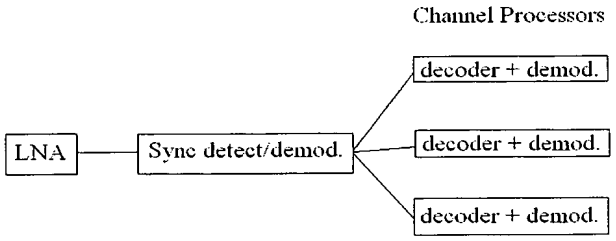
shown in Fig. 2, only includes a demodulator 86, which is in each of the receiver channel processors 58 rather than being connected to a plurality of channel processors, each including a demodulator) by stating that:

> *The demodulator unit 86 within the receiver channel processor 58 provide a synchronization (col. 3, line 12-16).*

Again, this reply does not actually address Applicant's argument, which is that Hladlik does not disclose an *additional* sync detection and demodulation unit which is connected to a plurality of channel processors. The Applicant is not arguing that the channel processors of Hladlik doe not each include their own demodulation units, as the Examiner appears to suggest. Instead, the invention is a sync and demodulation unit which is in addition to the demodulator unit 86 withing each of the processors.

The illustration at right shows what is claimed. The elements positively recited in claim 26 include a plurality of channel processors connected to a sync detection and modulation unit, each of the channel processors also including its own demodulator (as well as spread spectrum and error correction decoders). Hladlik merely discloses that the channel processors includes a demodulator, *i.e.*, the three blocks at the right side of the illustration. **Hladlik does not disclose the block in the middle of the illustration labeled "Sync detect/demod."** and the Examiner does not even attempt to argue that this positively claimed element, which was discussed at length in the previous response, is disclosed by Hladlik, instead simply pointing out that each of the channel processors 58 of Hladlik includes a demodulator unit 86. The

The Claimed Invention



The Hladlik patent only discloses demodulators in the channel processors (see Fig. 2) and not an additional sync detection and demodulation unit (for recovering an additional timing signal added during uplink

demodulator units 86 correspond to the claimed demodulator included in each of the channel processors and cannot provide the advantages of the additional sync detection and demodulation unit to which the channel processors are connected.

The Examiner's final response, included on page 3 of the final Office Action, is that

> *Regarding applicant's arguments the Hladlik does not disclose a plurality of receiver channel processors. . .The examiner however discloses wherein Fig. 2 comprises a multiple receiver channels with 53, depending on the number of channels the splitter 78 outputs. Each channel containing a separate channel processor.*

This response is to argument that was never made. In fact, it is not understood how the Examiner could have interpreted Applicant's lengthy discussion of the claimed sync detection unit which is in addition to a plurality of channel processors for an argument that Hladlik discloses a plurality of channel processors. Applicant's argument was that Hladlik failed to disclose:

> a plurality of receiver channel processors, each including a spread spectrum decoder, demodulator, and error correction decoder (in the claimed invention, the timing signal is recovered by a **sync detection and demodulation unit that is separate from the individual channel processors**, which include a spread spectrum decoder, demodulator, and error correction decoder for recovering baseband signals).

Somehow, the Examiner missed the entire boldface type portion of this argument, namely that Hladlik fails to disclose a plurality of channel processors ***and an additional sync detection and demodulation unit that is separate from the individual channel processors***. This is a positively claimed feature of the invention that is clearly not shown in the reference, which shows the plurality of channel processors but not the additional sync detection and demodulation unit. Instead, as illustrated in Fig. 2 of the Hladlik patent, the low noise amplifier 74 is connected to a down converter 76 and splitter 78, none of which includes a sync detection and demodulation unit, as claimed. In fact, there is no need in the system of Hladlik for such an additional sync/demodulator because Hladlik does not add a timing signal on uplink (much less a CW clock signal).

In addition to the distinguishing features recited in claim 26, it is respectfully noted that **claim 37** recites the especially advantageous feature that the additional timing signal detected and demodulated by the additional sync detector/demodulator of claim 26 is a "**CW clock tone.**" This feature is not even remotely suggested by Hladlik. The CW clock tone is an especially simple and therefore robust timing signal that is, contrary to page 4 of the Official Action, not mentioned in Hladlik (col. 3, lines 19-26, cited by the Examiner, say nothing about a CW clock tone). This was pointed out in the previous response and yet the Examiner simply repeated the rejection without any reply to the argument.

Because the Hladlik patent fails to disclose or suggest a satellite receiver that includes a sync/demodulation unit, as recited in claim 26, that is *in addition to* the demodulators in the channel receivers, thereby making possible timing of relatively weak signals (such as C-band signals captured by a hemispherical rather than dish antenna), much less the CW clock tone detector of claim 37, it is respectfully submitted that the Hladlik patent does not anticipate or suggest the claimed invention, and withdrawal of the rejection of claims 26, 33, 36, 37, and 46 is respectfully requested.

2. Rejections of Claims 27-32, 34, 35, 39, 42, 44, and 47 Under 35 USC §103(a) in view of U.S. Patent No. 5,734,962 (Hladlik) and/or U.S. Patent Nos. 4,876,737 (Woodworth), 4,931,802 (Assal), 6,192,068 (Fattouche), 6,198,914 (Saegusa), 4,985,707 (Schmidt) and 6,466,569 (Wright)

These rejections are all respectfully traversed on the grounds that the none of the cited secondary references makes up for the failure of Hladlik patent to disclose or suggest a sync/demodulation unit that is in addition to the demodulation units of the individual channel processors, as claimed, so as to enable use of a hemispherical antenna to capture relatively weak C-band satellite broadcasts (C-Band is recited in independent claims 49 and 50). As a result, withdrawal of the rejections under 35 USC §103(a) is also respectfully requested.